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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LEONEL YANEZ MARTINEZ,
VICTOR OSORNIO OSORNIO, and RAUL RODIGUEZ CAMACHO

Appeal 2007-3717
Application 10/613,433
Technology Center 2800

Decided: July 15, 2008

Before KENNETH W. HAIRSTON, ROBERT E. NAPPE, and KEVIN F. TURNER, *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 11 to 27. We have jurisdiction under 35 U.S.C. § 6(b).

We will sustain the rejections.

Appellants have invented a water-resistant coaxial cable that has a metal core surrounded by a dielectric element comprised of three layers of

polymer materials. A conductor surrounds the dielectric element, and a protective cover surrounds the conductor. A water penetration protective element is located between the conductor and the protective cover (Figure 1; Specification 1, 2, and 14).

Claim 11 is the only independent claim on appeal, and it reads as follows:

11. A dry water resistant coaxial cable comprising:
a metal core conductor element;
a dielectric element around the core conductor based on three layers,
comprising:
a first layer comprising a polymer mixed with an adhesive component
and applied onto the core conductor as a uniform film;
a second layer comprising a cellular high expansion polymer on the
first layer; and
optionally, a third layer comprising a reinforcement layer on the
second layer;
a second external conductor surrounding the dielectric element;
a second conductor element on the second external conductor, comprising
a water penetration protective element; and
a protective cover surrounding the second conductor element.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Chan	US 5,486,648	Jan. 23, 1996
Belli	US 6,455,769 B1	Sep. 24, 2002
Goehlich	US 6,784,371 B2	Aug. 31, 2004 (filed Nov. 27, 2002)

The Examiner rejected claims 11 to 13, 16 to 18, 20, and 23 to 25 under 35 U.S.C. § 103(a) based upon the teachings of Chan and Goehlich.

The Examiner rejected claims 14, 15, 19, 21, 22, 26, and 27 under 35 U.S.C. § 103(a) based upon the teachings of Chan, Goehlich, and Belli.

ISSUE

Appellants contend *inter alia* that the Examiner has failed to establish a suggestion or motivation for modifying the applied references in the manner suggested in the rejections, and that the Examiner has used the Appellants' disclosed and claimed invention as a guide to establish the obviousness rejections (App. Br. 6 to 32). Thus, the issue before us is whether or not the Examiner set forth a reasonable basis for a finding of obviousness of the claims on appeal?

FINDINGS OF FACT

1. In Figure 1 of Appellants' drawing, coaxial cable 10 includes a metal core conductive element 11 that is surrounded by a three-layer dielectric element. The first layer 12 is a polymer mixed with an adhesive component that is applied onto the metal core conductive element as a uniform film. The second layer 13 is a cellular high expansion polymer placed on the first layer. The third layer 14 serves as a reinforcement layer on the second layer 13. A conductor element 15 surrounds the three-layer dielectric element, and a water penetration protective element 16 surrounds the conductor element 15. A protective cover 17 surrounds the conductor element 15 and the water penetration protective element 16.
2. Chan describes a water resistant coaxial cable that includes a metal core conductor element 1 that is surrounded by a three-layer dielectric element (Figure 3; col. 4, ll. 19 to 37). The first layer 2 is a polymer mixed with an

adhesive¹ component that is applied onto the metal core conductive element 1 as a uniform film (col. 5, ll. 17 to 20). The second layer is a cellular high expansion polymer 3 placed on the first layer 2 (col. 5, ll. 20 to 25). The third layer 4 serves as a reinforcement layer on the second layer 3 (col. 5, ll. 20 to 25). A conductor element 6 surrounds the three-layer dielectric element, and a water penetration protective element 5A is helically wound around the conductor element 6 (col. 5, ll. 41 to 46). A protective cover 7 surrounds the conductor element 6 and the water penetration protective element 5A (col. 5, ll. 36 to 40).

3. "Goehlich teaches a cable (Fig 1) comprising a cable core (1), which is surrounded by a plurality of insulation layers (5a & 5b), wherein the insulation layers (5a & 5b) are formed as thin film layers (Col 7, lines 22-34), and comprise an adhesive component (Col 5, lines 8-20)" (Ans. 6).
4. "Belli teaches that the outer conductor (6) may be a material formed as a cylindrical pipe (i.e. metallic tube) which can be longitudinally welded or the edges overlapped [(]Col 4, lines 55-60), wherein the shield (6) may have an external conductor thickness of at least 0.2mm and a diameter of 14.2 mm (Col 10, lines 12-15)" (Ans. 9).

PRINCIPLES OF LAW

The Examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). If that burden is met, then the burden shifts to the Appellants to overcome the *prima facie* case with argument and/or evidence. *See Id.*

¹ Appellants' disclosure (Specification 3 and 4) as well as Chan (col. 4, l. 26) use ethylene vinyl acid (EVA) as an adhesive.

The Examiner's articulated reasoning in the rejection must possess a rational underpinning to support the legal conclusion of obviousness. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

An improvement in the art is obvious if "it is likely the product not of innovation but of ordinary skill and common sense." *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1742 (2007).

"An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case." *Leapfrog Enterprises Inc. v. Fisher-Price Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007).

The test for obviousness is what the combined teachings of the references would have suggested to the artisan. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981).

ANALYSIS

With the exception of claims 22 and 23 (App. Br. 20), none of Appellants' arguments in the briefs are specifically directed by number to the claims on appeal. Thus, in keeping with the provisions of 37 CFR § 41.37 (c) (1) (vii), the Board will select the sole independent claim 11 and dependent claim 23 as representative claims under the first ground of rejection, and the Board will select dependent claim 22 as a representative claim under the second ground of rejection to decide the subject appeal.

Turning first to independent claim 11, Chan clearly describes all of the limitations set forth in claim 11, including the adhesive in the first polymer layer 2 (Finding of Facts 2). The teachings of Goehlich, therefore, are merely cumulative to teachings already found in Chan (Finding of Facts 3). With respect to claim 23, Chan describes a water penetration protective

element 5A that comprises swellable tapes that are placed helically on the conductor 6 (Finding of Facts 2).

Turning next to claim 22, we agree with the Examiner that it would have been obvious to one having ordinary skill in the art at the time the invention was made for the modified Chan coaxial cable to have a copper conductor 6 in the shape of a cylindrical pipe, as taught by Belli, with a “thickness of at least 0.34 mm and a diameter of 13.7mm \pm 0.10 mm . . . since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233” (Ans. 9 and 10).

In summary, the Appellants’ arguments throughout the briefs (App. Br. 6 to 32; Reply Br. 1 to 12) do not convince us of any error in the Examiner’s positions in the rejections. *In re Oetiker*, 977 F.2d at 1445 (Fed. Cir. 1992). The Examiner’s rationale for combining the teachings of the references involves nothing more than common knowledge and common sense in the art, and is not the result of impermissible hindsight. *In re Kahn*, 441 F.3d at 988 (Fed. Cir. 2006); *KSR International v. Teleflex Inc.*, 127 S. Ct. at 1742 (2007); *Leapfrog Enterprises Inc. v. Fisher-Price Inc.*, 485 F.3d at 1161 (Fed. Cir. 2007); *In re Keller*, 642 F.2d at 425 (CCPA 1981).

CONCLUSION OF LAW

The Examiner has established the obviousness of claims 11 to 27.

ORDER

The obviousness rejections of claims 11 to 27 are affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

Appeal 2008-3717
Application 10/613,433

AFFIRMED

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